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Article (Accepted Version)

Busse, Christian, Schleper, Martin C, Niu, Menglei and Wagner, Stephan M (2016) Supplier development for sustainability: contextual barriers in global supply chains. *International Journal of Physical Distribution and Logistics Management*, 46 (5). pp. 442-468. ISSN 0960-0035

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# **Supplier development for sustainability: contextual barriers in global supply chains**

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*International Journal of Physical Distribution and Logistics Management*

## **Acknowledgments:**

An earlier version of this paper was the recipient of the 2015 Chris Voss Best Paper Award granted at the 22<sup>nd</sup> European Operations Management Association conference. We are most grateful to the EurOMA Scientific Committee for choosing our paper and encouraging us to consider *IJPDLM* as a publication outlet for our research. We also acknowledge the helpful feedback received at the conference. Moreover, we would like to thank the three anonymous reviewers at *IJPDLM* who have provided extremely insightful and constructive suggestions which helped us to improve this paper substantially. Finally, we express our gratitude to the Editor, Alexander E. Ellinger, for facilitating a speedy review process.

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## Supplier development for sustainability: contextual barriers in global supply chains

### Abstract

**Purpose** – This article explores contextual barriers to supplier development for sustainability (SDS) in global supply chains and managerial remedies to mitigate such barriers.

**Design/methodology/approach** – A dyadic case study design was adopted with a Western European buyer and six of its Chinese suppliers. The database consists of 41 interviews and 81 documents.

**Findings** – Contextual barriers to SDS in global supply chains derive from complexities in the sustainability concept, socio-economic differences, spatial and linguistic distance, as well as cultural differences between buyers and suppliers. Partial remedies include effective joint communications, an open organizational culture, and the fostering of cross-contextual understanding.

**Research implications** – The findings contribute to theory development at the intersection of sustainable and global supply chain management research. They help to explain why scarce sustainability-related progress in global supply chains has occurred in recent years.

**Practical implications** – The identified barriers facilitate managerial decision making that will expedite SDS progress in global contexts.

**Social implications** – By diffusing knowledge regarding available remedies, the study contributes to improving SDS effectiveness, thereby fostering sustainability capabilities and performance of suppliers.

**Originality/value** – This research highlights the criticality of contextual barriers to SDS. The barrier effects that stem from differing real-world conceptions of sustainability may inform future sustainable supply chain management research within and beyond SDS.

**Keywords** Conceptions of sustainability, Barrier, Dyadic case study, Goal-setting theory, Global supply chain, Supplier development, Sustainable supply chain management

**Paper type** Research paper

## Introduction

Many firms in developed economies have outsourced and offshored products, components, and functions over the last few decades, compelled by substantial labor cost advantages (Ehrgott *et al.*, 2013). Consequently, suppliers are now often located in distant emerging economies. Such countries are frequently characterized by relatively poor sustainability-related conditions; that is, poor green, social, and ethical attributes within the supplier's operational processes (Busse, 2016). While in the past buyers' purchasing interests were primarily related to the quality and the price of purchased goods, as well as purchasing risks and delivery conditions, today suppliers' sustainability-related conditions are also a factor. Most importantly, buyers' stakeholders exert substantial pressure on buyers to manage their global supply chains in a socially and environmentally responsible manner (Meixell and Luoma, 2015). Stakeholders can punish buyers severely when they become aware of unacceptable sustainability-related conditions among suppliers (Hofmann *et al.*, 2014), arguing that buyers are able to prevent such wrongdoing by means of supplier selection and development (Klassen and Vereecke, 2012). As a result, purchasing decisions and supply chain management of buyers play an important role in ensuring supply chain sustainability (Krause *et al.*, 2009). Specifically, supplier development for sustainability (SDS) is a powerful instrument with which buyers can shape their supply base to mitigate potential supply chain sustainability risks (Foerstl *et al.*, 2010). Responsible sustainability-related conditions among suppliers can also foster cooperation with buyers and may occasionally even create promotional benefits for buyers (Busse, 2016). Thus, responsible sustainability-related conditions among suppliers indirectly serve the interests of buyers. SDS serves to improve these conditions.

SDS has become a pivotal task of Western supply chain managers and a potential source of competitive advantage for Western buyers, especially across global markets (Reuter *et al.*, 2010; Sancha *et al.*, 2015). Research on this practically relevant topic lies at the intersection of two important streams within supply chain management research: namely, sustainable and global supply chains (Ellinger and Richey Jr., 2013). Prior research has investigated the antecedents (e.g., Wagner,

2006; Routroy and Pradhan, 2013), processes (e.g., Bai and Sarkis, 2010; Wagner and Krause, 2009), and outcomes (e.g., Ehrhoff *et al.*, 2013; Lu *et al.*, 2012) of supplier development in general and of SDS in particular. This valuable research suggests that the success of SDS is shaped by various intra- and inter-organizational factors. While scholars have also begun to study SDS *within* a global context (Khan and Nicholson, 2014; Sancha *et al.*, 2015), specific challenges that may arise *from* the global dimension have not yet been examined.

It is apparent that context matters to SDS (e.g., Sancha *et al.*, 2015). A supplier “just around the corner” can be sought out in person on a regular basis, and numerous aspects of the collaborative relationship will be self-evident, whereas a global-origin supplier is, by definition, not that easily approachable. Therefore, more research must be directed to the global contextual dimensions of SDS. Moreover, although supply chain sustainability is currently studied in detail (Touboulic and Walker, 2015) and requested by stakeholders (Meixell and Luoma, 2015), modern supply chains tend to be rather unsustainable (Pagell and Shevchenko, 2014). Hence, it is possible that extant SDS efforts may not lead to desired results. Given that many supply chains are now globalized, an examination of the possible barrier effects to SDS arising from global supply chain context is warranted. Accordingly, the purpose of this exploratory study is to answer the following research questions: (1) *What contextual barriers do Western buyers face in their supplier development efforts for sustainability with suppliers in developing countries?* and (2) *What managerial remedies can be applied to mitigate such barrier effects?*

The study employs a 1-to-n-type dyadic case study in an extreme case setting with one Western buying firm (WBF) and six of its Chinese suppliers. The database consists of 41 interviews and 81 additional documents. Investigation of both sides of the dyad ensures a nuanced and unbiased view of the context. The findings are integrated into goal-setting theory (Locke and Latham, 2002).

The next section presents an overview of the relevant conceptual background. Thereafter, the applied case study methodology is summarized. The sections that follow outline our findings on effective contextual barriers and related remedies and integrate them into a comprehensive model.

The concluding discussion highlights theoretical and practical implications, acknowledges limitations, and suggests future research avenues.

## **Conceptual background**

### *Supplier development for sustainability*

Supplier development is “any activity undertaken by a buying firm to improve either supplier performance, supplier capabilities, or both, and to meet the buying firm’s short- and/or long-term supply needs” (Krause *et al.*, 2000, p. 34). Traditionally, supplier development focused on economic goals and sought to develop suppliers’ economic performance and capabilities related to quality, cost, and delivery. Corresponding to the definition above and the triple bottom line concept (Elkington, 1997), SDS is defined herein as supplier development related to economic goals, environmental goals (such as energy efficiency or waste reduction), and socio-ethical goals (such as fairness of wages or abstinence from bribery). Supplier development related to economic goals is directly tied to the buyer’s interests, whereas supplier development related to environmental and social goals refers to the buyer’s indirect “enlightened self-interest” (Busse, 2016). SDS has only recently attracted scholarly research in response to stakeholder requests for reasonable sustainability-related conditions in firms’ supply chains (Foerstl *et al.*, 2015). Many studies focus only on green practices, through which suppliers can decrease their negative impact on the natural environment (e.g., Blome *et al.*, 2014) or on social practices through which suppliers can avoid socio-ethical wrongdoing (e.g., Sancha *et al.*, 2015). Based upon the argument that both sustainability dimensions can trigger punishing stakeholder reactions (Hofmann *et al.*, 2014) and that both are in a buyer’s enlightened self-interest (Busse, 2016), this study considers these streams jointly.

Prior SDS research has been concerned with SDS antecedents, practices, and outcomes. The impact and the support of buyers via inter-organizational collaboration and learning are critical antecedents to the successful adoption of sustainability-related practices among suppliers (Choi and

Wang, 2009). Middle managers in purchasing often stimulate SDS (Ehrgott *et al.*, 2013), and internal resources and capabilities represent additional determinants of successful SDS (Sancha *et al.*, 2015). Conversely, insufficient resources may prevent small- or medium-sized firms from developing sustainability capabilities without additional resource infusions (Fu *et al.*, 2012). Moreover, insufficient awareness of social responsibilities and inadequate commitment from top management have been identified as additional SDS barriers (Blome *et al.*, 2014; Lee and Kim, 2009).

Specific SDS practices include on-site technical support to improve existing processes, technical training of suppliers designed to reduce emissions and enhance production efficiency, and joint projects to develop sustainable technologies (Eltayeb *et al.*, 2011). SDS practices also include knowledge transfer to and communication with suppliers (Lu *et al.*, 2012), investment and resource transfers (Bai and Sarkis, 2010), improvement efforts directed at suppliers, and supplier evaluation (Lu *et al.*, 2012).

In addition to their beneficial effects on suppliers' sustainability performance, SDS practices can also improve suppliers' competitive position and economic performance (Foerstl *et al.*, 2015). Additionally, prior research has posited that SDS practices foster cooperation between buyers and suppliers and reduce supply chain sustainability risks for buyers (Busse, 2016). However, no specific attention has been directed toward contextual challenges in global supply chains that are not directly attributable to intra-organizational or dyadic conditions.

### *Conceptualization of barriers and remedies*

The notion of barriers is often used in management research, particularly with regard to supplier development and sustainable supply chain management (e.g., Ehrgott *et al.*, 2013). The concept is usually treated as self-explanatory, but barriers can be defined in any number of ways. For example, the Oxford dictionary defines a barrier as “a circumstance *or* obstacle that keeps people *or* things apart *or* prevents communication *or* progress” (Oxford Dictionaries, 2015; emphases added). Due to the potential for ambiguity, an explicit definition of the concept is attempted here.

The immediate purpose of SDS is to improve the sustainability performance or capabilities of suppliers. Moreover, SDS efforts must occur over a prolonged period of time, as both achievable performance and capabilities will change only gradually. Assuming for the sake of simplicity that the SDS efforts of the buyer and the receptiveness of the supplier are constant, managers can conceive of actual performance (or capabilities) as a mathematical function that depicts progress over time. Figure 1 illustrates this understanding. The slope of the performance function reflects the conception of barriers. Accordingly, this study defines a *barrier* as *a contextual factor that obstructs the translation of efforts into outcomes*. Figure 1 depicts three different barrier scenarios: one in which a stable SDS effort translates into relatively high performance (capabilities), denoted by a steep slope (i.e., barriers are low), another in which the same effort translates into relatively little performance, indicated by a flat slope (i.e., barriers are high), and a third intermediate scenario. Hence, when a buyer encounters a barrier, this fact alone does not imply that a buyer will fail in its SDS efforts. It does, however, likely mean that intended SDS outcomes will be more challenging to be realize.

-----Figure 1-----

The antonym of a barrier could be termed a *facilitator* or a *driver*. Such a factor represents a contextual condition that *fosters* the translation of efforts into outcomes. This study does not identify any SDS facilitators. However, a later section depicts findings pertaining to remedies. The term *remedy* is used to denote a *consciously planned managerial effort to mitigate the obstructing effects associated with one or multiple barriers*. Importantly, remedies differ from facilitators, as they represent managerial efforts rather than contextual factors. Likewise, remedies differ from substantial SDS practices, as the specific purpose of remedies is the mitigation of barrier effects, thus allowing SDS efforts to be brought to fruition.

## Methodology

An exploratory case study design was employed to generate theory about and an in-depth understanding of contextual barriers to SDS in the complex field of global supply chains, based upon



rich, contextually embedded data (Dubois and Araujo, 2007). Case study research is well suited to examine complex phenomena from different angles (Eisenhardt, 1989, Yin, 2014) since its main advantage when compared to other methods is the opportunity to interact closely with key informants (Pratt, 2009). Moreover, case study research is ideal for exploring causal relationships in depth, considering not only the “what,” but also the “how,” “why,” and – to some extent – the “when” (Whetten, 1989). The data were collected at the level of the dyad to ensure that the perspective of both the buyer and the supplier were fully represented.

SDS was investigated in an extreme case context (Seawright and Gerring, 2008) in which the expected barrier effects were high. By choosing a contextual situation with substantial language and spatial distance, it was possible not only to examine whether these aspects would impact SDS efforts (as seemed reasonable to expect), but also to explore how the involved firms dealt with resulting problems. Moreover, cultural differences between the involved contexts were expected to play a role in one way or another (see Hofstede, 1980), although how exactly culture might matter could not be determined beforehand.

More specifically, the WBF has been identified as one of the most influential players in the Chinese dairy, packaging, and aluminum foil industry. The WBF leverages its packaging technology to shape entire supply chains of various dairy producers and dairy industry development in China in general. It is renowned for working closely with its customers and suppliers on sustainability (e.g., training of farmers, consumer education activities). Further, China was of particular interest for a number of reasons. While China is currently the world’s manufacturing center, most Chinese factories are struggling with the implementation of labor and environmental standards imposed by WBFs (e.g., Chung, 2015). The WBF assured us that the majority of its risky suppliers are located in China, a fact which also pointed to high levels of potential barriers. Finally, the researcher who collected the data is personally familiar with both cultural contexts.

The final data set consisted of a 1-to-6 dyadic design with the same buyer and six different suppliers (see Table 1). The six dyads were literal replications of each other, which facilitated

replication of emerging findings.

-----Table 1-----

In total, 41 in-depth, semi-structured interviews on SDS with knowledgeable managers and executives of the WBF (n=10) and with the six Chinese suppliers (n=31) were conducted. The interview guidelines were modeled in accordance with prior research in the area of interest, which allowed for construct validity. The average length of time for the interviews, which focused solely on the SDS topic, was 80 minutes. Nearly all interviews took place at the respective firm locations in Western Europe and China. In order to ensure reliability, an extensive case study database and protocol were created. All interviews except one were recorded, transcribed, and translated into English (if necessary). In the one case in which a recording was not allowed, the researcher took extensive notes. On three occasions, brief follow-up phone conversations were conducted with suppliers to clarify certain aspects of the interview. While visiting the suppliers in China, direct observations of factory operations at each supplier were undertaken. Notes were taken whenever it was deemed helpful. Moreover, on one occasion, participation in a joint buyer-supplier meeting was possible. Additionally, 81 documents, comprised of both internal and publicly available materials, were employed for triangulation purposes (Eisenhardt, 1989; Yin, 2014).

Subsequently, the data were analyzed, applying qualitative content analysis (Miles and Huberman, 1994). The entire database was manually coded by the same two authors in MS Word and Excel documents. Initially, descriptive codes grounded in data were coded, and concepts established in prior supplier development and related research were consulted (Eisenhardt 1989; Strauss and Corbin 1998; Yin 2014). Subsequently, the codes were condensed into more theoretical codes by categorizing them into overarching themes. After the cases were analyzed and independently coded, the research team discussed the emergent findings to reach a high degree of inter-rater reliability (Pagell and Krause, 2005). In cases in which researchers could not reach an agreement about codes, these were deleted and were not used for further research purposes. Overall, great care was taken to develop convincing theoretical rationales to explain how and why the

respective contextual factors were influential. Finally, all emergent critical themes were again carefully assessed in light of the extant literature (Eisenhardt, 1989).

### **Findings on contextual barriers**

The analysis identified five contextual barriers to SDS. Jointly, the barriers can be viewed from the perspective of goal-setting theory (GST). GST revolves around “the relationship between conscious performance goals and level of task performance” (Locke and Latham, 2002, p. 705). Given that SDS is triggered by a need to improve the supplier’s sustainability performance as a specific task and that the buyer typically sets goals for the supplier, GST is a suitable theoretical lens for SDS and supplier development in general. According to GST, specific goals reduce ambiguity surrounding the effects to be achieved, thereby increasing task performance (Locke and Latham, 2002). The first barrier effect stemming from the conceptual complexity of the sustainability concept obstructs the specificity of goal definition, thereby impeding sustainability performance improvements in accordance with GST. GST also posits that more challenging but achievable goals improve task performance. In line with this GST finding, the second barrier effect stemming from socio-economic differences prevents the buyer from setting challenging goals for their suppliers. Finally, GST posits that “for goals to be effective, people need summary feedback that reveals progress in relation to their goals” (Locke and Latham, 2002, p. 708). The other three barrier effects obstruct necessary communications between the buyer and its suppliers during the pursuit of SDS goals, thereby preventing suppliers from receiving necessary feedback.

Figure 2 depicts the concluding model in an overview. The remainder of this section illustrates each of the barriers with supportive quotes, thereby consistently juxtaposing the buyer’s views with the suppliers’ views. The effectiveness of each barrier is explained theoretically, culminating in five propositions. The section that follows is structured in the same manner for the three remedies.

-----Figure 2 -----

### *Conceptual complexity of the sustainability concept*

Conceptual complexity of the sustainability concept emerged as a first barrier from the data (see Table 2). Various conceptions of sustainability were discovered, but no aligned definition was found, either at the WBF or among its suppliers. Accordingly, the views expressed in Table 2 should be regarded as a collection of individual-level views rather than homogenous company views. These different conceptions create a barrier when the buyer attempts to convey sustainability-related requirements that the supplier understands only partially or misinterprets, thereby obstructing SDS goal specificity (Locke and Latham, 2002).

-----Table 2 -----

The conceptions identified in this study can be grouped into two overall categories, as visualized in Figure 3. One group comprises “longitudinal understandings,” the other “cross-sectional understandings.” The first longitudinal understanding, abstinence from resource overexploitation, resembles the original idea as coined in 1713 in the context of forestry to align the wood consumption rate with the rate of regrowth (von Carlowitz and von Rohr, 2014). This idea was later generalized to the sustainable development ideal, which postulates an economic development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 43). The second longitudinal understanding, absence of harm to the socio-ecological system, is a conceptual sibling, but it focuses on emissions that are harmful to the environment, such as air or water pollution, rather than detrimental resource extraction. A third longitudinal understanding refers to the absence of systemic risks. From this perspective, firms should avoid engaging in severe risks whose impacts cannot reasonably be assessed or which clearly threaten the entire socio-ecological system. This notion of sustainability resonates with core aspects of resilience theory, which focuses on the capacity of a system to retain function, structure, feedback capabilities, and identity after it has experienced a dynamic shock (Redman, 2014; Tendall *et al.*, 2015). For instance, the financial crisis in 2008 threatened to destroy the global financial system. Similarly, opponents

of nuclear power generation argue that this type of energy generation represents a systemic risk to the socio-ecological system.

-----Figure 3 -----

Research in sustainable supply chain management (e.g., Carter and Rogers, 2008) has primarily emphasized the cross-sectional understanding of sustainability, resembling the so-called triple bottom line (Elkington, 1997). Many interviewees have adopted this holistic view. Some have also adapted it by stressing only select dimensions, as illustrated in Figure 3 (top left).

To be clear, longitudinal and cross-sectional understandings are interrelated and share a common essence, such that, at least theoretically, one view can be mapped onto the other. Figure 3 embodies an argument promulgated by Markman *et al.* (2016), which suggests that stakeholders are concerned about uncompensated negative externalities and ethical issues. The first two variants of the longitudinal understanding resonate with Markman *et al.*'s (2016) first category, whereas the third variant refers to the second category. Jointly, they underscore the fact that the current behavior of any actor in the socio-ecological system must be assessed not only with respect to economic consequences, but also with respect to environmental and social consequences, because long-term impacts often arise from short-term impacts.

Without at least a certain degree of conceptual clarity, the setting of specific goals in SDS will be jeopardized. In accordance with GST (Locke and Latham, 2002), we thus posit:

**Proposition 1:** Conceptual complexity of the sustainability concept acts as a barrier to supplier development for sustainability in a global supply chain.

*Socio-economic differences*

Socio-economic differences between the operating contexts of buyers and suppliers emerged from the data as another, somewhat perplexing and counterintuitive barrier (see Table 3). In this study, socio-economic differences are conceived of as society-level variables at the operating contextual (e.g., country) level of analysis (e.g., measuring socio-economic differences between Italy and India). Socio-economic differences appear to trigger multiple, somewhat opposed, effects.

-----Table 3 -----

First, and in accordance with the arguments depicted in the introduction, socio-economic differences appear to translate into dyadic differences in sustainability-related conditions at the firm level, as well as into stakeholder pressure for supply chain sustainability. Thereby, they trigger SDS efforts (unless sustainability-related conditions of suppliers are so insufferable that collaboration becomes impossible). This effect describes *when* SDS takes place.

Second, when buyers engage in SDS, especially direct SDS, they will familiarize themselves with the operating context of suppliers by means of exchanging data, information, knowledge, and opinions. Hence, buyers come to better understand this context. This understanding may also encompass the causal link between society-level, socio-economic standards and typical sustainability-related conditions. As the buyer learns more about specific circumstances faced by its supplier and the socio-economic context of the supplier's operations, assessing sustainability-related conditions becomes more challenging. A *prima facie*, uncontroversial problem, such as child labor, illustrates this aspect. Almost all WBFs require the complete absence of child labor from suppliers (Schleper and Busse, 2013). However, a closer look at this issue reveals that many families in developing economies live in extreme poverty and therefore often depend on income from child labor (see Table 3). Similar dilemmas exist for other sustainability-related issues (HRBDF, 2015). Therefore, many of the sustainability-related standards of developed economies can be regarded as path dependent on socio-economic development; they are characterized by affordability (see Table 3; Hindman and Smith, 1999). Hence, *within* the extant SDS efforts, the buyer will often develop a goal-setting restraint, which is manifested in lower performance expectations. In accordance with GST, relatively less challenging goals translate into less than the achievable maximum performance (Locke and Latham, 2002). This causal chain describes *how* SDS is conducted.

While socio-economic differences between buyer's and supplier's operating contexts can be regarded as a root cause of SDS, perplexingly, the same variable also obstructs this process. Moreover, suppliers can try to exploit the supposed specificity of their context to undermine

sustainability-related requirements, thereby further jeopardizing SDS success (see Table 3). This leads to the following proposition:

**Proposition 2:** Socio-economic differences between the operating contexts of a buyer and a supplier act as barriers to supplier development for sustainability in a global supply chain.

#### *Spatial distance*

Many interviewees mentioned spatial distance as a barrier to SDS (see Table 4). Since flying a distance of about 8,000 km and a pure flight time of about 10 hours are associated with high monetary and opportunity costs, economic rationality impairs the chances for both parties to meet each other personally, to communicate face to face, and to strengthen the buyer-supplier relationship. An associated problem relates to time differences. In global supply chains, arranging calls and virtual meetings with multiple actors can be quite challenging (see Table 4).

#### -----Table 4 -----

These findings are consistent with prior extant literature. Spatial distance is likely to lead to fewer personal meetings and to communication deficits (Giunipero, 1990). Szulanski (1996, p. 36) identifies “an arduous relationship between the source and the recipient” as one of the main reasons firms may fail in transferring best practices between each other. She emphasizes the importance of personal interaction for knowledge exchange, especially where tacit knowledge is concerned (i.e., knowledge that exists only implicitly within individuals; see Modi and Mabert, 2007). Without regular communication, suppliers may receive less feedback on their sustainability progress, thereby reducing goal effectiveness, in accordance with GST (Locke and Latham, 2002). Monitoring and feedback also increase psychological pressure on suppliers to comply with new standards and to implement best (sustainability) practices (Routroy and Pradhan, 2013). How well sustainability practices will be adopted among suppliers is therefore strongly influenced by the distance between both parties (Foerstl *et al.*, 2010; Sancha *et al.*, 2015). Accordingly, the first of three sub-propositions on communication-obstructing factors is formulated:

**Proposition 3a:** The spatial distance between a buyer and a supplier acts as a barrier to supplier development for sustainability in a global supply chain.

### *Linguistic distance*

The WBF and its suppliers agreed that linguistic distance also obstructs communication efficiency because of efficiency losses, and also because subtle meanings are more difficult to convey (see Table 5). Because of this widespread problem, Chinese suppliers prefer sending emails whenever phone calls or face-to-face communication can be avoided. However, negotiations, intense debates, and the resolution of disparate viewpoints require a high degree of social presence that email correspondence does not facilitate. Media richness theory postulates that the choice of media “depends on the matching of media richness to the characteristics of task analyzability” (King and Xia, 1997, p. 880). In this sense, some modes of communication allow the actors to convey social and nonverbal cues, facilitate direct feedback, and promote language variety, whereas others do not (Daft and Lengel, 1986). Accordingly, media can be ranked by the degree to which these features are incorporated, from richest to leanest. Face-to-face or group meetings are the richest media, followed by phone calls, emails, and other written addressed and non-addressed documents (Daft *et al.*, 1987). For instance, social cues can only be transmitted through video conference or personal interaction. This problem is particularly important when tacit knowledge must be transferred or when two actors do not share the same background on concepts and topics (e.g., in inter-cultural contexts). Accordingly, linguistic distance may not only affect communication efficiency, but also quality, and often to such an extent that knowledge exchange becomes impossible. As long as linguistic barriers hinder closer relationships and the creation of trust, knowledge sharing and consequently SDS may be jeopardized (Yen and Hung, 2013). Further, Feely and Harzing (2003, p. 41) expect buyers to “lose some of their relationship power” as a consequence of language barriers in buyer-supplier relationships. This finding is consistent with previous research that identified the barrier effects of linguistic distance within dyadic relationships (Qu and Brocklehurst, 2003; Trent and Monczka, 2003), and also with GST. Therefore, the following is proposed:

**Proposition 3b:** Linguistic distance between a buyer and a supplier acts as a barrier to supplier development for sustainability in a global supply chain.



-----Table 5 -----

*Cultural differences*

Cultural differences between the operating contexts of buyers and suppliers are the third communication-obstructing barrier (see Table 6). Hofstede (1980, p. 25) defines culture as “the collective programming of the mind, which distinguishes the members of one human group from another.”

-----Table 6 -----

The data support Hall’s (1976) distinction between high-contextual and low-contextual cultures or languages (see Table 6). European low-context cultures employ direct and explicit methods of communication that are primarily verbal, whereas high-contextual languages, such as Chinese, instead focus on “context and communication to provide the full meaning of the message” (Ribbink and Grimm, 2014, p. 116). Cross-cultural communication, as required in SDS, may hence be prone to misunderstanding.

Furthermore, the data indicate that Western purchasers and technical personnel tend to directly approach their counterparts at Chinese suppliers, thereby bypassing the senior managers of suppliers. This practice is considered by Chinese managers as disrespectful, and it often leads to delays and operational complications (Jia and Zsidisin, 2014). Hofstede’s (1980) construct of “power distance” explains this problem. It refers to the degree to which members of a society can accept the unequal distribution of power in institutions and organizations (Hofstede, 1980). China has a high power distance national culture, whereas Western power distance tends to be relatively low. Accordingly, the typical Chinese intra-organizational information flow is top-down, meaning that operational personnel must gain permission from top management. Different levels of power distance may hence cause misunderstandings in communication (Jia and Zsidisin, 2014).

As previous research has shown, cultural norms and values affect the formation of attitudes and influence workplace behaviors as well as organizational performance (Kroenung and Eckhardt, 2015). In a global business environment, the cultural distance between both parties influences

organizational behaviors, the decision-making process of managers, and work-related values (Hewett *et al.*, 2006; Hofstede, 1980). Many problems with collaboration arise from a lack of respect for the other country's goals and culture (Asgary and Mitschow, 2002), thereby jeopardizing both parties' commitment to collaboration and overall satisfaction with the relationship (Griffith and Myers, 2005) and obstructing intercultural knowledge transfer (Bhagat *et al.*, 2002).

However, every aspect associated with this barrier is neither permanent nor deeply rooted in national culture. For example, interviewees frequently mentioned the different styles of working and thinking between European and Chinese people and organizations. The Chinese were often described as flexible and results-oriented, whereas Europeans were depicted as systematic and principled (see Table 6). This perceived cultural difference may simply result from current market environments, but sensitivity vis-à-vis perceived and actual cultural differences may also obstruct communication (see Table 6). Based on this line of argument, and in accordance with GST, the following is proposed:

**Proposition 3c:** Cultural differences between a buyer and a supplier act as barriers to supplier development for sustainability in a global supply chain.

### **Findings on partial remedies**

Three remedies to mitigate (i.e., reduce, but not deactivate) barriers to SDS in global supply chains were identified. They are motivated by findings from the case studies, are explained theoretically, and are related to the extant literature.

#### *Effective joint communication activities*

The WBF strove valiantly to communicate its sustainability-related expectations and requirements to its suppliers. It deliberately employs multiple communication channels and methods, such as presentations, industrial conferences, offering of technical guidance, regular personal visits, emails, and calls. All suppliers indicated that they appreciate these communications remedies (see Table 7). Prior literature also highlights the importance of effective regular, frank, and personal communication (e.g., Wagner, 2006).

-----Table 7 -----

To remedy linguistic barriers, interpreters and intermediaries are employed whenever helpful. For example, the purchasing manager for aluminum foil (WBF<sub>6</sub>) stated that some suppliers and production facilities are contacted via a Chinese intermediary who has profound language skills in Chinese and English. At supplier Delta, the sales director ( $\delta_5$ ) proudly informed the interviewers of Delta interpreters' achievement of the highest level in the "Test for English Majors." However, since most technical staff members do not speak any English and the interpreter does not fully understand the technical requirements, a communication-effectiveness gap remains.

Suppliers extensively praised the institutionalized information exchange with the buyer through a "voice of the supplier" initiative and the establishment of a "common agenda," in which the WBF and its strategic suppliers regularly discuss current and expected future problems, goals, and strategies. Finding the appropriate mode of communication influences communication effectiveness and fosters intimacy between actors (Daft and Lengel, 1986). While one-way communication may lead to motivational loss, effective two-way communication is key to SDS because it builds mutual trust and supports goal alignment among buyers and suppliers (Wagner, 2006). The effectiveness of institutionalized communication systems in fostering inter-organizational knowledge sharing has also been observed in the context of SDS (Sancha *et al.*, 2015). Furthermore, information sharing has been emphasized as an important antecedent to the alignment of processes between suppliers and buyers (e.g., Jonsson and Mattson, 2013; Wong *et al.*, 2015).

With respect to the barrier effect of different sustainability understandings, Chinese suppliers emphasize that they require specific instructions regarding how to improve performance to become more sustainable (see Table 7). This aspect is consistent with the assertion that causal ambiguity (Szulanski, 1996) and the lack of adequate information (Khan and Nicholson, 2014) pose barriers to knowledge transfer and supplier development activities. Sustainability-related requirements are in need of particularly extensive explanation vis-à-vis, for example, economic goals, especially in

cross-cultural contexts. Effective communication is fostered by situational strength, that is, “implicit or explicit cues provided by external entities regarding the desirability of potential behaviors” (Meyer *et al.*, 2010, pp. 122). Strong situations provide signals related to requirements, thereby restricting the range of appropriate behaviors and leaving little room for individual deviation in situations in which people with different personalities and cultural backgrounds are involved (Meyer *et al.*, 2010). Situational strength can be fostered through incentives and sanctions (Dalal *et al.*, 2015). Therefore, extant inter-organizational SDS measures, such as monetary incentives (e.g., contract prolongations or purchase volume increases), non-monetary awards and recognitions, a shared mission, and common goals (Wagner, 2006; Routroy and Pradhan, 2013), also create situational strength. Hence, the following is proposed:

**Proposition 4:** The establishment of effective joint communication activities helps to mitigate conceptual-complexity, spatial, linguistic, and cultural barriers to supplier development for sustainability in a global supply chain.

#### *Interactive and open organizational culture*

Building an interactive and open organizational culture mitigates ambiguity associated with the sustainability concept. The enabling of viable and applied sustainability discussions supports the development of a common understanding of goals and measures. Integration of sustainability in the organizational culture may also help to spread necessary awareness to frontline employees. As part of this measure, employees are regularly trained and updated concerning relevant sustainability developments and requirements (see Table 8).

-----Table 8 -----

Moreover, deep implementation within the organizational culture ensures that managers set a good example (see Table 8). Top management commitment is particularly critical when high power-distance cultures, such as the Chinese, are involved (see Table 8). As long as middle managers and frontline employees are not supported by their principals, it is quite unlikely that sustainability requirements will be met or implemented.

Scholarly literature has found similar results. In order to enable a corporate culture in which ethical and sustainable actions are fostered, formal codes of conduct, top management commitment, ethical leadership, and aligned processes are needed (e.g., Schleper and Busse, 2013; Sims and Brinkmann, 2002). Thus, it is proposed:

**Proposition 5:** Promoting an interactive and open organizational culture helps to mitigate conceptual-complexity and cultural barriers to supplier development for sustainability in a global supply chain.

#### *Fostering cross-contextual understanding*

All firms highlighted their efforts to understand their partners' foreign culture (see Table 9). Sending staff to foreign countries facilitates language learning and a better understanding of the culture, values, and socio-economic circumstances of the country in question. Sometimes, companies also recruit new staff to accommodate cross-contextual knowledge and skills (see Table 9). Moreover, intercultural teams and diverse mindsets are effective remedies to the aforementioned barriers. Experience with different cultural backgrounds appears to be a helpful skill in working with suppliers from other countries and cultures (see Table 9).

#### -----Table 9 -----

Prior literature supports these findings. For example, sending staff to foreign sites in divergent cultures “not only enables a richer form of communication, but can carry the symbolic meaning that the joint supplier development effort is of high importance for the [buying] firm” (Wagner and Krause, 2009, p. 3166). The exchange of employees presents an investment in the relationship, fosters knowledge sharing, and builds staff qualifications as well as trust, thereby promoting supplier development (Prahinski and Benton, 2004). This leads to the final proposition:

**Proposition 6:** Fostering cross-contextual understanding of an organization helps to mitigate conceptual-complexity, socio-economic, linguistic, and cultural barriers to supplier development for sustainability in a global supply chain.

#### **Concluding discussion**

The objective of this exploratory study has been to develop theory on the contextual barriers and

related remedies to SDS in global supply chains. The study makes important scholarly and practical contributions and identifies interesting avenues for future research.

### *Scholarly contributions*

Supply chain management research is often concerned with the notions of barriers and remedies. This study has sought to increase theoretical precision by offering explicit definitions for these terms. It suggests defining a barrier as a contextual factor that obstructs the translation of efforts into outcomes. Correspondingly, a remedy reflects a consciously planned managerial effort to mitigate the obstructing effects associated with one or multiple barriers.

The study has developed a comprehensive model comprised of five barrier effects (stemming from conceptual complexity of the sustainability concept, socio-economic differences, spatial and linguistic distance, and cultural differences) and three partial remedies (related to communication activities, organizational culture, and cross-contextual understanding). The barrier-remedy model fosters an understanding of why sustainability-related progress remains slower than desirable (Pagell and Shevchenko, 2014) by identifying strong barriers to SDS in global supply chains that cannot be fully overcome.

With respect to sustainability (not only in supply chain management), the study has explored the extant understandings of real-world actors regarding this concept. It appears that sustainability is, to some extent, an “umbrella concept” (Busse and Mollenkopf, 2014; Hirsch and Levin, 1999). From this study, multiple longitudinal and cross-sectional conceptions, which are somewhat subjective, have been identified. Sustainability would presumably not be such an impactful topic in current (supply chain) management research if the various understandings did not revolve around a common essence; however, identifying this essence is anything but trivial, as competing academic definitions demonstrate. This study has demonstrated how this conceptual complexity obstructs the specificity of goal definition within SDS.

In methodological terms, this research may be noteworthy for its dyadic case study design, which was chosen to generate an unbiased and nuanced view of effective SDS barriers and remedies.

Employing a cross-cultural research team with scholars socialized on both sides of the dyad has facilitated this endeavor. Indeed, it appears that the dyadic design, together with the vast database, has facilitated deeper insights than would have been achievable by focusing exclusively on the buyer's or the supplier's side. For example, the study of the barrier effects revealed highly congruent views of the buyer and the supplier on three occasions (see Propositions 3a, 3b, and 3c). On another occasion, it identified an interesting relationship dynamic where one party "resisted" while the other "hesitated" (see Proposition 1). On yet another occasion, it appeared that the within-firm variance exceeded the between-firm variance to such an extent that the individual level analysis had to complement (or even replace) the firm-level analysis (see Proposition 2).

### *Practical contributions*

By identifying the barrier effects associated with five contextual factors, this study has uncovered causal relationships of high conceptual relevance to the managers of buyers (Busse, 2014), thereby building on prior research that emphasized the location of suppliers as a critical factor in SDS (Sancha *et al.*, 2015). The awareness of barrier effects may foster buyers' expectation management in extant SDS efforts and may also inform the managerial decision regarding switch versus develop, because the presence of barriers means that less improvement of sustainability-related conditions is to be expected than would be the case if the barriers did not exist. Against this background, buyers may occasionally decide that an expected SDS outcome is not worth the engagement effort and may switch, rather than develop, respective suppliers.

Moreover, the study has identified and illuminated three clusters of remedies that buyers can employ to mitigate barriers, thereby increasing SDS effectiveness and helping to make suppliers more sustainable. The first remedy category refers to the establishment of effective joint communication activities that have the potential to support knowledge sharing, build a common understanding of the concepts, processes, and goals of SDS, and overcome cultural differences. The study has shown that merely increasing communication frequency does not suffice. Rather, it is also important to choose the right contacts (i.e., due to power distance and expertise) and adequately rich

media. Moreover, communication should be multi-dimensional, acknowledging suppliers' concerns.

As a second remedy, an interactive and open organizational culture should be promoted, both within and between organizations. An empowerment of the employees may be a particularly strong tool as intrinsically motivated people tend to show a higher commitment to SDS activities. This holds especially true for frontline employees who are the executors of sustainability requirements and hence have a high responsibility to ensure sustainability-oriented conditions at suppliers. In respect of cultural differences, managers should be aware of particular Chinese aspects, such as *guanxi*, that are important in day-to-day business and support trust building (cp. Cai *et al.*, 2010). Guanxi fosters communication in buyer-supplier-relationships through “informal, personal relationships and exchanges of favors that dominate business activities” (Cai, *et al.*, 2010, p. 260). In regard to the conceptual complexity barrier, managers should consider investing time and resources to choose suppliers, which communicate their understanding of sustainability proactively. Sharing a common philosophy in sustainability from the start may save resources and time later on.

Third, cross-contextual understanding may be fostered by providing employees the opportunity to understand foreign perspectives. In this respect, training, relocation, and recruitment are effective measures. Moreover, proactive diversity management enlarges the pool of available knowledge and experience and can also create a competitive advantage.

Most of the remedies outlined above require some time to bear fruit following implementation, which is why buyers should choose suppliers with whom they intend to cooperate over the long term. All firms highlighted that such a long-term orientation is crucial. It also serves to protect relationship-specific investments.

### *Limitations and future research*

This study has employed a dyadic case study design, incorporating views of both sides of the dyad. Numerous measures were undertaken to foster reliability and validity; nevertheless, all of the usual limitations of cross-sectional case study research apply to this study as well.

Assuming that the findings are valid for the global sourcing context and the SDS, which is



the primary topic of this research, the following question arises: To what extent are these findings applicable elsewhere? It seems reasonable to assume that the spatial, linguistic, and cultural barriers (and the respective remedies) may also describe the general context of buyer-supplier collaboration in global supply chains. Likewise, barriers related to conceptual complexity and socio-economic differences are presumably not unique to SDS but, rather, more broadly characterize the topic of sustainability in global supply chains. The conceptual complexity barrier should also be scrutinized for its overall importance within sustainability research.

While the academic concept of (supply chain) sustainability has been developed and debated over decades, surprisingly little attention has been dedicated to our real-world understanding of the concept. We encourage future researchers to dedicate greater attention to practitioners' understandings. For example, it would be interesting to study the notion of sustainability (and the closely related concept of corporate social responsibility) from a performativity perspective (e.g., Ferraro *et al.*, 2005; Cabantous *et al.*, 2010) in an attempt to understand how academic discourse influences practitioners' conceptions.

Over the course of exploring the influence of socio-economic differences, this study has revealed ethical dilemmas for buyers between stakeholder requests and deontological ethics (Crisp, 2005) on the one hand (demanding full abstinence from the employment of child labor as an irrevocable principle), and consequentialistic ethics (Sinnott-Armstrong, 2015) on the other (considering the consequences of such an action for the people who are supposedly protected). In accordance with current discourse regarding neocolonialism, sustainability-related ideas are framed by powerful Western actors and regimes that dominate the respective discourse (Hofmann *et al.*, 2015). Actual "ethical complexities" (Reinecke and Ansari, 2015) have scarcely been investigated within sustainable supply chain management research, although numerous dilemmas exist (HRBDF, 2015). In-depth studies of firm and stakeholder behavior vis-à-vis such dilemmas are identified as another interesting avenue for future research.

Future research should also seek to extend the contextual orientation of this research by

investigating intra-organizational and inter-organizational factors relevant to SDS. The inductive research design of this study could subsequently be complemented by deductive designs for SDS, drawing, for example, on goal-setting theory, as this study did. To conclude, numerous exciting opportunities for research on SDS in global supply chains exist.

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**Table I.** Case firm demographics and data sources

Case firm	Western buying firm	Supplier Alpha	Supplier Beta	Supplier Gamma	Supplier Delta	Supplier Epsilon	Supplier Zeta
No. of employees	>20,000	<1,000	~2,500	~1,500	3,000	<1,000	7,000
Enterprise type	Private	State-owned	Sino-foreign joint venture	Private	Private	Sino-foreign joint venture	Private
Main industry	Packaging producer	Paperboard producer	Paperboard producer	Aluminum foil producer	Aluminum foil producer	Aluminum foil producer	Aluminum foil producer
No. of interviews	10	4	6	5	6	4	6
Respondents' job titles	Manager forestry and materials (WBF <sub>1</sub> )	Key account manager ( $\alpha_1$ ) <sup>4</sup>	Domestic sales manager ( $\beta_1$ )	Continuous improvement manager ( $\gamma_1$ )	Factory manager ( $\delta_1$ ) <sup>2</sup>	General manager ( $\epsilon_1$ , 2x)	Environmental specialist ( $\zeta_1$ )
	Material engineer environment (WBF <sub>2</sub> )	Production manager ( $\alpha_2$ ) <sup>1</sup>	Environment, health, and safety director ( $\beta_2$ )	Customer service manager ( $\gamma_2$ )	General manager ( $\delta_2$ )	Key account manager ( $\epsilon_2$ , 2x) <sup>4</sup>	General manager ( $\zeta_2$ , 2x)
	Purchasing director aluminum foil (WBF <sub>3</sub> )	Purchasing manager ( $\alpha_3$ ) <sup>1</sup>	Factory manager ( $\beta_3$ ) <sup>2</sup>	Human resources director ( $\gamma_3$ )	Human resources specialist ( $\delta_3$ )	Technical expert ( $\epsilon_3$ ) <sup>1</sup>	Human resources specialist ( $\zeta_3$ )
	Purchasing director paperboard (WBF <sub>4</sub> )	Technical engineer ( $\alpha_4$ ) <sup>1</sup>	Human resources manager ( $\beta_4$ )	Production director ( $\gamma_4$ )	Purchasing manager ( $\delta_4$ )		Key account manager ( $\zeta_4$ )
	Purchasing manager paperboard (WBF <sub>5</sub> , 3x)	Technology manager ( $\alpha_5$ ) <sup>1</sup>	Production director ( $\beta_5$ ) <sup>2</sup>	Sales director ( $\gamma_5$ )	Sales director ( $\delta_5$ , 2x) <sup>4</sup>		Purchasing manager ( $\zeta_5$ )
	Purchasing manager aluminum foil (WBF <sub>6</sub> , 2x)	Vice general manager ( $\alpha_6$ , 3x)	Purchasing director ( $\beta_6$ )		Technical engineer ( $\delta_6$ ) <sup>2</sup>		
	Senior material engineer (WBF <sub>7</sub> ) <sup>3</sup>		Sales director ( $\beta_7$ )				
	Supplier management director (WBF <sub>8</sub> )						
Triangulation documents	56 (53 internal and 3 public)	10 (all internal)	10 (all internal)	0	2 (both internal)	2 (both internal)	1 (internal)

<sup>1</sup> Exchange focused on company context information (not counted); <sup>2</sup> Respondents from the same company interviewed jointly (counted as a single conversation); <sup>3</sup> Email exchange only (not counted); <sup>4</sup> Plus a follow-up phone conversation (not counted)



**Table II.** Conceptual complexity as a barrier

Perspective	Supportive quotes
<b>Chinese suppliers</b>	<p>“We often talk about this topic [sustainability] in the company, but nobody has given this term a specific definition.” (<math>\alpha_1</math>)</p> <p>“I am not familiar with the details of sustainable development. Thus, I have no idea whether a company could benefit from sustainable development.” (<math>\beta_1</math>)</p> <p>“Currently, the understanding of the sustainability concept is multi-dimensional, but with a similar main direction” (<math>\zeta_4</math>)</p> <p>“We cannot harm the rights of our future generations or other people to have access to the current resources, by utilizing the current resources for our self-development. (...) We should try to build this awareness that the resources are getting less and less, especially for those non-renewable ones” (<math>\delta_5</math>)</p> <p>“To be sustainable internally, the corporate operations need to ensure the products meet the market demands, and employees have opportunities to learn and develop themselves through trainings. Externally, firms should comply with the regulations and take responsibility in environmental protection and security. (...) Moreover, employees should not engage in any illegal behaviors such as bribery or corruption” (<math>\gamma_1</math>)</p>
<b>Western buying firm</b>	<p>“Sustainability is a concept that doesn’t have a definition in [our] or even in most companies. It’s a new idea (...). Sustainability is a great idea that just starts to be implemented.” (WBF<sub>3</sub>)</p> <p>“Everything is about risk. (...) The other side of sustainability is risk.” (WBF<sub>6</sub>)</p> <p>“I would say that we still have some work to do on that [finding a common understanding in reported sustainability measures] (...). It usually takes time before we have a common understanding on how things should be reported and what the numbers mean” (WBF<sub>1</sub>)</p>

**Table III.** Socio-economic differences as a barrier

Perspective	Supportive quotes
<b>Chinese suppliers</b>	<p>“When a Western customer questions our practices on the social side, I always frankly explain to them that the Western buying firms and Chinese suppliers are in different development stages. I admit that most Chinese companies are not doing quite well in protection of labor rights, but we are making continuous progress on that.” (<math>\delta_5</math>)</p> <p>“The enterprises in China always seize the key issues and solve most of them. (...) It is difficult to solve all due to limited resources and lack of energy. The business develops very fast in China, and it is difficult to take all aspects into account. (...) Sometimes we have development by leaps and bounds. In this way we could reach the goals very soon, which is also what I prefer at the current stage.” (<math>\gamma_4</math>)</p> <p>“I think we should have a priority to develop [economically].” (<math>\gamma_4</math>)</p>
<b>Western buying firm</b>	<p>“It [the lack of sustainability-related innovations in China] might just be the stage of the development. (...) I think if you give the Chinese enough years, they will catch up with Europeans and be able to innovate and change things accordingly” (WBF<sub>3</sub>)</p> <p>“If you look at [Delta], they perceive working 6 days a week as a natural thing. Can we say ‘no, you are not allowed to work that long, you have to work 5 days a week’? No, we cannot.” (WBF<sub>5</sub>)</p> <p>“[At our supplier in] Pakistan (...), straw is collected (...). Out there, children have been found working, perhaps seven, eight, or ten years old. The question is: is this right or wrong? If you talk to the people, they say it’s natural for children to join family work. Yet, the problem is that they get paid a little bit for this and thus they cannot allow these children to go to school, because they need the income from this child work.” (WBF<sub>5</sub>)</p>

**Table IV. Spatial distance as a barrier**

<b>Perspective</b>	<b>Supportive quotes</b>
<b>Chinese suppliers</b>	<p>“The second [problem regularly faced when dealing with foreign customers] is the time difference due to which we cannot communicate that efficiently.” (<math>\alpha_1</math>)</p> <p>“After all there is a long distance between us; therefore our private relationship is not that close.” (<math>\alpha_6</math>)</p> <p>“We meet the base material department abroad not very often. First of all, we couldn’t see each other very often due to the geographical factor. It could make a big difference if we could see each other more often.” (<math>\gamma_2</math>)</p>
<b>Western buying firm</b>	<p>“[Supplier Gamma] is in China, and we are based in [a Western European country], so we can only meet each other once or twice a year (...). If it was a supplier in Europe, we would visit them at least twice a year.” (WBF<sub>6</sub>)</p> <p>“When we go back to China, we usually [visit all the suppliers], because this is the most cost-efficient way, as overseas flights are quite expensive, whereas the flights in China are actually very cheap.” (WBF<sub>6</sub>)</p> <p>“In the initial stage, there was not much contact between the function in Europe and the function in China (...). I have been working very close to [WBF<sub>4</sub>], but [he] has come to China only three times during the past 3 years when I was based in China.” (WBF<sub>5</sub>)</p>

**Table V. Linguistic distance as a barrier**

<b>Perspective</b>	<b>Supportive quotes</b>
<b>Chinese suppliers</b>	<p>“Cross-language communication decreases the efficiency and obstructs the expression of the intention” (<math>\alpha_6</math>)</p> <p>“From the language perspective, to communicate in Chinese is much easier. With foreign customers, language is a problem. (...) Our technical staff doesn’t speak English, which is our disadvantage.” (<math>\delta_5</math>)</p> <p>“The [language] difference will slow down the process, and the expression of our intention could become less accurate due to the translation.” (<math>\alpha_6</math>)</p>
<b>Western buying firm</b>	<p>“The biggest difficulty with Chinese suppliers is language. If you are sitting in the meeting room, and you don’t understand what the other person is saying, it makes the communication very difficult. (...) Using the interpreter can slow down the entire interaction. So you really need to allocate a full day for any meeting, which in turn reduces productivity.” (WBF<sub>3</sub>)</p> <p>“I would say that language sometimes has been a barrier, so understanding is not always easy. (...) We are English speakers, but we cannot speak directly to the suppliers, unless they speak English as well.” (WBF<sub>1</sub>)</p> <p>“[By using a translator in negotiations,] Chinese suppliers often don’t understand the subtle messages that we might be sending” (WBF<sub>3</sub>)</p>

**Table VI.** Cultural differences as a barrier

<b>Perspective</b>	<b>Supportive quotes</b>
<b>Chinese suppliers</b>	<p>“The [Chinese] team has very strong execution skills. They and Americans both share the result-oriented culture. The Europeans are more systematic and work step-by-step; but Americans prefer results. (...) Chinese are different from Europeans.” (<math>\beta_1</math>)</p> <p>“Chinese are rather subtle, and foreigners are more direct. For instance, foreigners will tell us directly whether they would like to cooperate with us.” (<math>\epsilon_1</math>)</p> <p>“The extent of being honest is different. Foreigners are very straight-forward, while you need to guess the real meaning of Chinese. In other words: Chinese are not that candid, their expressions are sort of obscure.” (<math>\zeta_2</math>)</p> <p>“[The buyers at the WBF] might consider some political topics in China as very sensitive, which, however, we as Chinese don’t actually think of as sensitive. They might be very careful and try to avoid discussing the social or political topics. Such cultural differences lead us to communicate more cautiously” (<math>\alpha_6</math>)</p>
<b>Western buying firm</b>	<p>“Chinese suppliers often don’t understand the subtle messages that we might be sending.” (WBF<sub>3</sub>)</p> <p>“The way people think [in China] is different (...). Sometimes they say something, but they mean something else underneath as well. (...). It’s a little bit different way of communication since what you don’t say is also important; how to interpret it.” (WBF<sub>5</sub>)</p> <p>“Chinese people’s thinking is different from the Westerners (...). China is developing very fast, but the market competition encountered by Chinese people is much fiercer than the Westerners. China is changing quickly in every aspect, which foreigners are not used to yet.” (WBF<sub>6</sub>)</p>

**Table VII.** Effective joint communication activities as a remedy

<b>Perspective</b>	<b>Supportive quotes</b>
<b>Chinese suppliers</b>	<p>“Targets and know-how are both needed and important for us. (...) However, in order to move forward, we should be clear on the benchmark and specific content of what to do.” (<math>\gamma_5</math>)</p> <p>“The mutual communication [with other international customers] is not as ‘multi-dimensional’ as we have it with [the WBF]. We have contacts with their staff from different positions and departments, including technology, logistics, quality, strategy, and environmental protection.” (<math>\alpha_6</math>)</p> <p>“We would like to be involved as well [in the “common agenda” process] to have a better understanding of [the WBF’s] concepts.” (<math>\alpha_6</math>)</p> <p>“[The WBF] provides us very clear information, including the requirements on products, the improvement of finished products, the goal of environmental protection, and [product] safety credentials. This information is very important to us.” (<math>\beta_7</math>)</p>
<b>Western buying firm</b>	<p>“We try to have a dialogue with the supplier on the reporting and make sure that they have understood our questions and we have understood the reporting back.” (WBF<sub>1</sub>)</p> <p>“In “common agenda,” we prioritize activities together: For instance, we would like to work on this, and suppliers would like to work on that. And with a list of these things we choose to prioritize what we are going to do together. (...) Every time we meet (...) we discuss how we are going to increase [the share of Forest Stewardship Council certified materials], for instance, and what procedure will be necessary.” (WBF<sub>4</sub>)</p> <p>“For some of the things, we think that we are not completely clear with what we want, or we don’t understand each other well (...) It is clear sometimes that the different production specifications are not being set in the same way for all suppliers, which makes the data difficult to compare between different suppliers (...). So that is one area where we identified that we probably need to understand better.” (WBF<sub>6</sub>).</p>

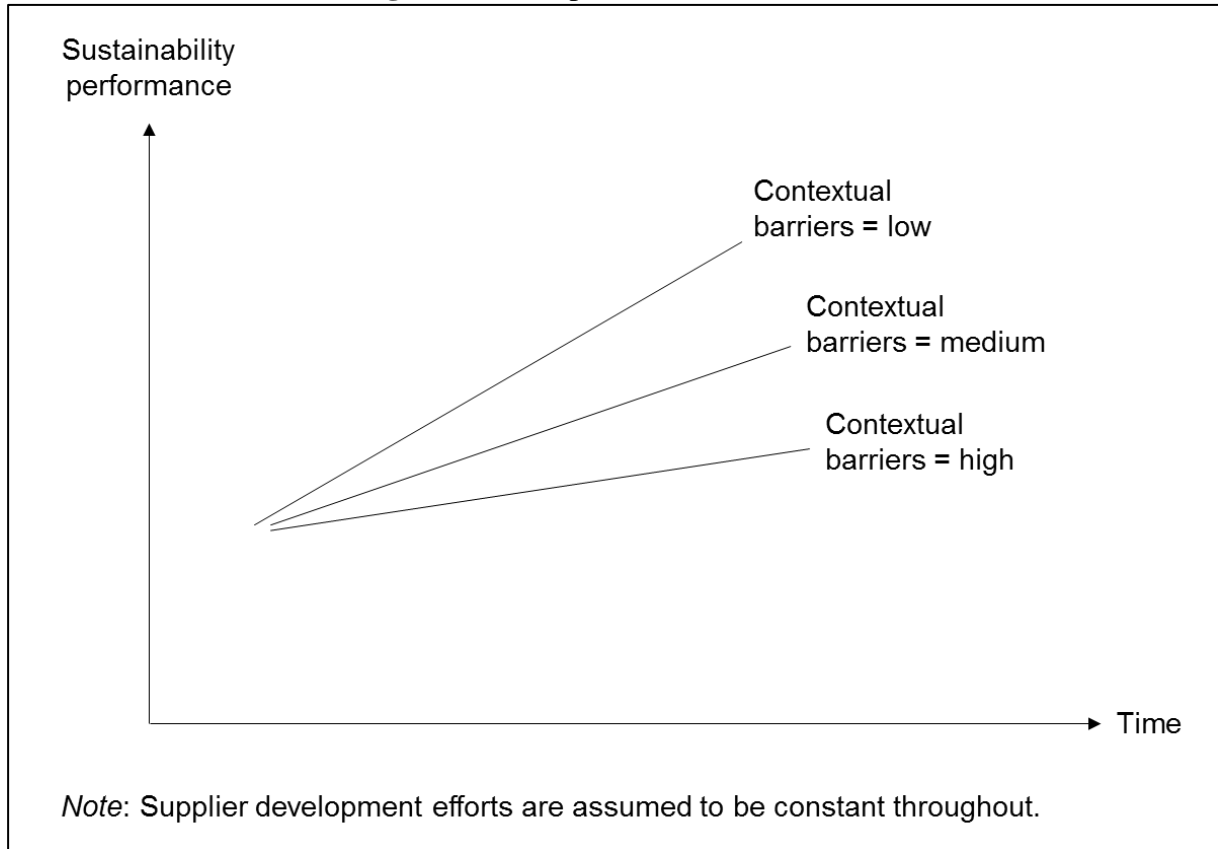
**Table VIII.** An interactive and open organizational culture as a remedy

<b>Perspective</b>	<b>Supportive quotes</b>
<b>Chinese suppliers</b>	<p>“Employee trainings are necessary, as there must be concrete things to do, to avoid talking about things only.” (δ<sub>5</sub>)</p> <p>“Our boss emphasizes corporate social responsibility a lot. For example, he would personally come to the factory to inspect our security and environmental protection. (...) A firm must work on its CSR if it wants to survive. Therefore, I think it is highly associated with corporate culture.” (ζ<sub>4</sub>)</p> <p>“It does not help to simply discuss the principles or ideological guidelines; they can only be usefully implemented through forming a culture, a code of conduct, values, as well as a sense of right and wrong and by employing such values in decision-making.” (ζ<sub>2</sub>)</p> <p>“I believe that there are not many discussions at the basic level [of the company]. However, employees from the middle level discuss aspects of sustainable development during their annual trainings and other meetings” (γ<sub>3</sub>).</p>
<b>Western buying firm</b>	<p>“In China, (...) the attitude has to emerge at the company from the top downward. But that’s what I was impressed with when we went to [Zeta]. In all the meetings, of course, it was all about hierarchies, and the boss was the boss. But he let other people speak and other people felt free to (...) provide their opinions.” (WBF<sub>3</sub>)</p> <p>“In China, (...) it tends to go through a bit more about hierarchy. ‘Let me check with the boss.’ (...) Everything has to go through the person in charge. And in Europe, you have less of that.” (WBF<sub>5</sub>)</p> <p>“[In regard to] the commercial discussions, you should stay in touch with everyone, stay in touch with the market. (...) My commercial manager (...) should have very frequent interaction with our suppliers.” (WBF<sub>6</sub>)</p>

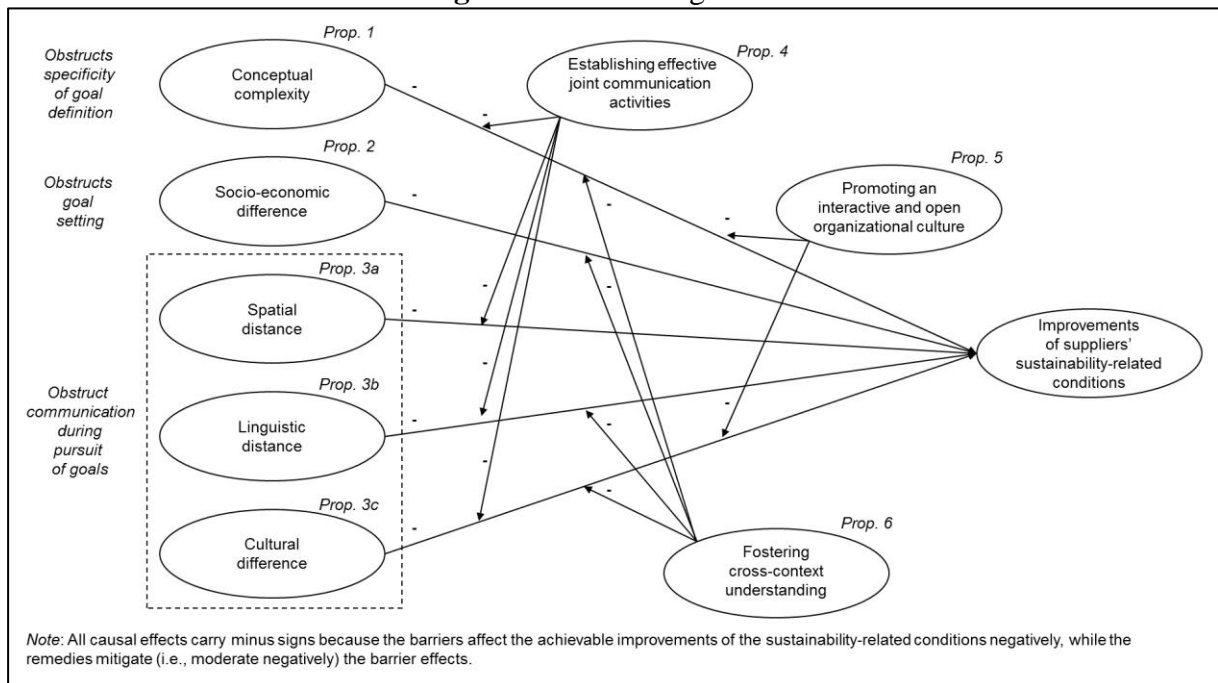
**Table IX.** Fostering cross-cultural understanding as a remedy

<b>Perspective</b>	<b>Supportive quotes</b>
<b>Chinese suppliers</b>	<p>“Our boss sent more than 20 employees from every sub-company to America for studying (...). They studied there for three months and brought back some new ideas.” (<math>\delta_6</math>)</p> <p>“We are considering hiring a very good expert from Japan, because we are building a new factory [here] and we want him to stay here for a while.” (<math>\delta_5</math>)</p> <p>“We had a few foreigners from the management team provide us technical support a couple of years ago. (...) The general manager is from Hong Kong and studied in Canada. Manager [X] was from [a city in South China] and went to study abroad, which is why his mindset is much more advanced.” (<math>\beta_1</math>)</p> <p>“Our team is very international and we share work experience and stories with each other. (...) If we can step into the shoes of our counter party, the communication [with clients] will be smoother.” (<math>\zeta_4</math>)</p>
<b>Western buying firm</b>	<p>“There are few Chinese experts [Westerners] who can solve Chinese problems in-depth, and that’s why they [the WBF] hired me to help.” (WBF<sub>6</sub>)</p> <p>“You can develop what I call ‘cultural stereotypes’ (...). It’s smarter to go in with an open mind and add to the information you receive the possibility that their culture influences the way they see things and the way they deal with you.” (WBF<sub>3</sub>)</p> <p>“[Managers at the supplier Beta] understand fully what we are talking about and what demands we have (...) because we already have established serious business in the US, and in Russia together. (...) These guys circulate within their companies, and they are sent to China to share their experience.” (WBF<sub>5</sub>)</p> <p>“In 2011, the next opportunity came. China and Asia were growing very fast, but we had not so much sourcing activities in Asia. Therefore my boss at that time thought that with the experience I have in China, I would be a good candidate to go to Shanghai, and meet Asian suppliers.” (WBF<sub>5</sub>)</p>

**Figure 1. Conceptualization of barriers**



**Figure 2. Concluding model**



**Figure 3.** Different conceptions of sustainability

